Bruhat Bangalore Mahanagara Palike

Executive Engineer

Bytarayanapura Division

QUALITY REPORT

(3rd & Part Bill)

Name of Work : PACKAGE NO-6 (CONSIST OF 14 WORKS)

Est. Cost: 1500.00 LAKHS

MECADEZ
Insight Makes It Happen

Mecadez Core Technologies Private limited

Project Management Consultancy Services

Registered Office: No.80, Aniketana, 14th 'B' Main, West of Chord Road, 2nd Stage, 2nd Phase, Mahalakshmipuram, Bengaluru-560086

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Mecadez Core Technologies Private Limited

Project Management Consultancy Services

Summary of Frequencies of Field Tests and Lab Tests Conducted

Name of the work: **Package No.06 Consists of 14 Works**

Job No: **MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR**

Contractor **M/s.SMLP Asphalts,Prop. Sri B B Umesha,**

Sl. No	Particulars of the Tests	Plain Cement Concrete (1:3:6)			
		Quantity Cum	Frequency of Tests	Tests Required	Tests Carried Out
I	**Cement**	125.098	OPC 43 Grade		
1	Consistency test		1Test / Source of Supply	1	1
2	Fineness test		1Test / Source of Supply	1	1
3	Soundness test		1Test / Source of Supply	1	1
4	Compressive strength test				
i	7-days		1Test / Source of Supply	1	1
ii	28-days		1Test / Source of Supply	1	1
II	**Fine Aggregates**				
5	Gradation test		1Test / Day	1	1
III	**Coarse aggregates**				
6	Gradation test		1Test / Day	1	1
7	Water absorption test		Regular Intervals	1	1
8	Impact test		1Test / Source of Supply	1	1

Note: Frequency of tests as per Specifications MORT&H, V Revision, Section 900.

Consultant

Contractor

ASSISTANT ENGINEER

ASSISTANT EXE ENGINEER

Test Report
Consistency test

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Plain Cement Concrete (1:3:6)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (Part 5) -1988 & Specification for Road & Bridge Works, MORT&H, Rev-V.
Location	Source of Material
Material	Cement
Sample No	1
Sample Collection Date	27/Nov/2022
Testing Date	28/Nov/2022

Sl. No.	Description	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5
1	Weight of Cement	400	400	400	400	400
2	Percentage of water added (%)	27	28.5	29.5	30	31
3	Weight of Water (gm)	108	114	118	120	124
4	Initial Reading of Plunger (mm)	40	40	40	40	40
5	Difference (mm)	18	17	15	8	5

Results: Standard Consistency of Cement: 31.00%

Note:

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Test Report
Fineness test

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Plain Cement Concrete (1:3:6)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (Part 5) -1988 & Specification for Road & Bridge Works, MORT&H, Rev-V.
Location	Source of Material
Material	Cement
Sample No	1
Sample Collection Date	27/Nov/2022
Testing Date	28-Nov-2022

Sl. No.	Determination	Trial 1	Trial 2
1	Weight of Cement before sieve (gm)	100	100
2	Weight of residue retained on 90um sieve (gm)	5.8	6.5
3	Percentage retained (%)	5.8	6.5
4	Average Percentage retained (%)	6.15	

Results: Residue of cement is: 6.15 %

Comments: Maximum allowable residue by mass for ordinary portlad cement is 10%

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Test Report
Soundness test

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Plain Cement Concrete (1:3:6)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (Part 3) -1988 & Specification for Road & Bridge Works, MORT&H, Rev-V.
Location	Source of Material
Material	Cement
Sample No	1
Sample Collection Date	27/Nov/2022
Testing Date	28-Nov-2022

Sl. No.	Description	Trial 1	Trial 2	Trial 3
1	Initial Distance between the indicator points of Lechatelier mould	11	10	11
2	Final Distance between the indicator points of Lechatelier mould	16	18	14
3	Difference or expansion	5	8	3
4	Average Differences or Expansion in mm	5.33		

Results: Difference in Expansion of Cement: 5.33 mm
Comments: Maximum allowable Expansion of cement is 10 mm.

Note:

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For Mecadez Core Technologies Private Limited

Mecadez Core Technologies Private Limited MECADEZ

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Test Report
Compressive strength test

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Plain Cement Concrete (1:3:6)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Source of Material
Material	Cement
Sample No	1
Sample Collection Date	27/Nov/2022
Testing Date	7-Dec-2022

Cube	Cement Grade	Age at Test (Days)	Slump (mm)	Weight (kg)	Dimension (LxWxH)	Density (kg/m3)	Max. Load (KN)	Area (mm2)	Compressive Strength (N/mm2)	Average Sample (N/mm2)
1	43	7	-	0.878	70.6x70.6x70.6	2302	171	4984.36	34.31	34.01
2	43	7	-	0.858	70.6x70.6x70.6	2415	168	4984.36	33.71	

Results: 7-days Compressive strength of cement is 34.01 N/mm^2

Comments: 7-days Compressive strength of cement should not be less than 33 N/mm^2

Note:

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Test Report
Compressive strength test

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Plain Cement Concrete (1:3:6)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Source of Material
Material	Cement
Sample No	1
Sample Collection Date	27/Nov/2022
Testing Date	28-Dec-2022

Cube	Cement Grade	Age at Test (Days)	Slump (mm)	Weight (kg)	Dimension (LxWxH)	Density (kg/m3)	Max. Load (KN)	Area (mm2)	Compressive Strength (N/mm2)	Average Sample (N/mm2)
1	43	28	-	0.891	70.6x70.6x70.6	2287.00	227	4984.36	45.54	44.94
2	43	28	-	0.868	70.6x70.6x70.6	2316.00	221	4984.36	44.34	

Results: 28-days Compressive strength of cement is 44.64 N/mm^2

Comments: 28-days Compressive strength of cement should not be less than 43 N/mm^2

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Test Report
Gradation test

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Plain Cement Concrete (1:3:6)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Source of Material
Material	Fine Aggregates
Sample No	1
Sample Collection Date	27/Nov/2022
Testing Date	29-Nov-2022

Weight of Sample(gram): 200

Sl No.	IS Sieve Size	Weight retained	% retained	% Cumulative	Cumulative % of Passing		Remarks
					% Passing	Gradation limits	
1	10 mm	0	0.00	0.00	100.00	100	Gradation satisfies the MORT&H Zone II Specification for PCC
2	4.75 mm	10.2	5.10	5.10	94.90	90-100	
3	2.36 mm	15.23	7.62	12.72	87.29	75-100	
4	1.18 mm	22.74	11.37	24.09	75.92	55-90	
5	600 µ	51.03	25.52	49.60	50.40	35-59	
6	300 µ	48.74	24.37	73.97	26.03	8-30	
7	150 µ	41.26	20.63	94.60	5.40	0-10	

Note:

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For Mecadez Core Technologies Private Limited

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Test Report
Gradation test

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Plain Cement Concrete (1:3:6)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev.
Location	Source of Material
Material	Coarse aggregates
Sample No	1
Sample Collection Date	27/Nov/2022
Testing Date	29-Nov-2022

Weight of Sample: 4000 gms

Sl. No	I.S. Sieve size	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	31.50	0	0.00	0.00	100.00	100	
2	26.50	364.2	9.11	9.11	90.90	85-95	
3	19.00	459.5	11.49	20.59	79.41	68-88	
4	9.50	888.7	22.22	42.81	57.19	45-65	
5	4.75	633.5	15.84	58.65	41.35	30-55	
6	0.60	844.8	21.12	79.77	20.23	8-30	
7	0.15	437.2	10.93	90.70	9.30	5-15	
8	0.08	302.5	7.56	98.26	1.74	0-5	

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Test Report
Water absorption test

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Plain Cement Concrete (1:3:6)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 2386 (Part - 3) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Source of Material
Material	Coarse aggregates
Sample No	1
Sample Collection Date	27/Nov/2022
Testing Date	29-Nov-2022

Sl. No.	Particulars	Computations	Test Numbers		Mean
			Test 1	Test 2	
1	Weight of SSD sample	W_1 g	763	763	
2	Wt of Basket Filled with Aggregates Immersed in water	W_2g	2045	2067	
3	Weight of Saturated Aggregate in water	W_sg = W_2- W_1	1282	1304	
4	Weight of saturated surface dry aggregate in Air	W_3 g	2080	2092	
5	Weight of water equal to the Volume of the Aggregate	W_3- W_s	798	788	
6	Weight of Oven dried Aggregate	W_4g	2041	2058	
7	Specific Gravity	W_4/(W_3- W_s)	2.56	2.61	2.58
8	Apparent Specific Gravity	W_4/(W_4- W_s)	2.69	2.73	2.71
9	Water Absorption	(W_4- W_3)*100/ W_4	1.91	1.65	1.78

Comments: Maximum allowable Aggregate Water Absorption value is 2.0%.

Note:

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For Mecadez Core Technologies Private Limited

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Test Report
Impact test

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Plain Cement Concrete (1:3:6)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 2386 (Part - 4) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Source of Material
Material	Coarse aggregates
Sample No	1
Sample Collection Date	27/Nov/2022
Testing Date	29-Nov-2022

Sl. No.	Determination	Unit	Trails	
1	Weight of empty cylinder, w1	gm	960	960
2	Weight of container filled with Aggregate, w2	gm	1265	1248
3	Weight of the Aggregate before compaction, (w2 - w1) = w3	gm	305	288
4	Weight of the sample passing through 2.36 mm IS sieves after Impact, w4	gm	89	93
5	Weight of the sample retained on 2.36 mm IS sieve after Impact, w5	gm	216	195
6	Aggregate Impact Value (w4 / w3)x100	%	29.18	32.29
7	Specified Limit	%	45.00	

Results: Average Aggregate Impact Value: **30.74** %

Note:

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Project Management Consultancy Services

Summary of Frequencies of Field Tests and Lab Tests Conducted

Name of the work: **Package No.06 Consists of 14 Works**

Job No: **MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR**

Contractor **M/s.SMLP Asphalts,Prop. Sri B B Umesha,**

Sl. No	Particulars of the Tests	T.M.T Steel of Fe550 Grade			
		Quantity in Tonne	Frequency of Tests	Tests Required	Tests Carried Out
I	**Steel**				
1	Tensile strength test	19.58	1 sample per source	1	1

Note: Frequency of tests as per Specifications MORT&H, V Revision, Section 900.

CONSULTANTS CONTRACTOR ASSISTANT ENGINEER ASSISTANT EXECUTIVE ENGINEER

Test Report
Steel

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	T.M.T Steel of Fe550 Grade
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Site
Material	T.M.T Steel of Fe550 Grade
Tested Date	8-Dec-2022

Sl. No.	Dia in mm	Weight in Kg/mtr	Average Weight Kg/mtr	Ultimate Load in KN	Ultimate Tensile stress in N/mm^2	Average Ultimate Tensile Stress N/mm^2	Elongation in (%)	Bending and Rebending
1	8	0.395	0.395	29.37	584.00	583.50	18	OK
	8	0.395		29.32	583.00			
2	10	0.617	0.617	46.28	589.00	589.50	18	OK
	10	0.617		46.36	590.00			
3	12	0.889	0.889	66.98	592.00	591.50	18	OK
	12	0.889		66.87	591.00			

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Project Management Consultancy Services

Summary of Frequencies of Field Tests and Lab Tests Conducted

Name of the work: Package No.06 Consists of 14 Works

Job No: MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR

Contractor M/s.SMLP Asphalts,Prop. Sri B B Umesha,

Sl. No	Particulars of the Tests	M20 Concrete For Raft			
		Quantity Cum	Frequency of Tests	Tests Required	Tests Carried Out
IV	**Concrete**				
1	Compressive strength test	103.07	1 to 5cum=1 sample 6 to 15 cum=2 sample 16 to 30cum=3 smaple 31 to 50cum= 4 sample 51cum and above= one additonal sample for every additional 50 cum or part therof	6	6
	7-days				
	28-days				

Note: Frequency of tests as per Specifications MORT&H, V Revision, Section 900.

consultant

contractor

ASSISTANT ENGINEER

ASSISTANT EXE ENGINEER

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Raft
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	1
Casting Date	12-Dec-2022
Tested Date	19-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	7	7.71	150*150*150	2284.44	317.00	0.0225	14.09	14.31	14.23
2	20	7	7.68	150*150*150	2275.56	322.00	0.0225	14.31		
3	20	7	7.92	150*150*150	2346.67	327.00	0.0225	14.53		
4	20	7	7.82	150*150*150	2317.04	310.00	0.0225	13.78	14.15	
5	20	7	7.63	150*150*150	2260.74	324.00	0.0225	14.40		
6	20	7	7.81	150*150*150	2314.07	321.00	0.0225	14.27		

Results: 7-days Compressive strength of Concrete is 14.23 N/mm2

Comments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

Note:

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Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Raft
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	2
Casting Date	12-Dec-2022
Tested Date	19-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	7	8.23	150*150*150	2438.52	313.00	0.0225	13.91	14.25	14.24
2	20	7	8.03	150*150*150	2379.26	322.00	0.0225	14.31		
3	20	7	8.45	150*150*150	2503.70	327.00	0.0225	14.53		
4	20	7	8.36	150*150*150	2477.04	319.00	0.0225	14.18	14.24	
5	20	7	8.41	150*150*150	2491.85	315.00	0.0225	14.00		
6	20	7	7.98	150*150*150	2364.44	327.00	0.0225	14.53		

Results: 7-days Compressive strength of Concrete is 14.24 N/mm2

Comments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

Note:

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A13-09

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Raft
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	3
Casting Date	12-Dec-2022
Tested Date	19-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	7	7.99	150*150*150	2367.41	319.00	0.0225	14.18	14.16	14.10
2	20	7	8.16	150*150*150	2417.78	322.00	0.0225	14.31		
3	20	7	8.25	150*150*150	2444.44	315.00	0.0225	14.00		
4	20	7	8.32	150*150*150	2465.19	312.00	0.0225	13.87	14.03	
5	20	7	7.85	150*150*150	2325.93	309.00	0.0225	13.73		
6	20	7	8.41	150*150*150	2491.85	326.00	0.0225	14.49		

Results: 7-days Compressive strength of Concrete is 14.10 N/mm2

Comments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

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Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Raft
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	4
Casting Date	19-Dec-2022
Tested Date	26-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	7	8.09	150*150*150	2397.04	321.00	0.0225	14.27	14.28	14.15
2	20	7	8.26	150*150*150	2447.41	326.00	0.0225	14.49		
3	20	7	8.35	150*150*150	2474.07	317.00	0.0225	14.09		
4	20	7	8.42	150*150*150	2494.81	313.00	0.0225	13.91	14.01	
5	20	7	7.95	150*150*150	2355.56	311.00	0.0225	13.82		
6	20	7	8.51	150*150*150	2521.48	322.00	0.0225	14.31		

Results: 7-days Compressive strength of Concrete is 14.15 N/mm2

Comments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

Note:

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Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Raft
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	5
Casting Date	19-Dec-2022
Tested Date	26-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	7	8.21	150*150*150	2432.59	322.00	0.0225	14.31	14.13	14.08
2	20	7	8.06	150*150*150	2388.15	317.00	0.0225	14.09		
3	20	7	8.09	150*150*150	2397.04	315.00	0.0225	14.00		
4	20	7	8.13	150*150*150	2408.89	317.00	0.0225	14.09	14.03	
5	20	7	8.15	150*150*150	2414.81	323.00	0.0225	14.36		
6	20	7	8.23	150*150*150	2438.52	307.00	0.0225	13.64		

Results: 7-days Compressive strength of Concrete is 14.08 N/mm2

Comments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

Note:

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Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Raft
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	6
Casting Date	19-Dec-2022
Tested Date	26-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength
1	20	7	8.31	150*150*150	2462.22	322.00	0.0225	14.31	14.22	14.13
2	20	7	8.16	150*150*150	2417.78	317.00	0.0225	14.09		
3	20	7	8.19	150*150*150	2426.67	321.00	0.0225	14.27		
4	20	7	8.23	150*150*150	2438.52	307.00	0.0225	13.64	14.04	
5	20	7	8.25	150*150*150	2444.44	319.00	0.0225	14.18		
6	20	7	8.33	150*150*150	2468.15	322.00	0.0225	14.31		

Results: 7-days Compressive strength of Concrete is 14.13 N/mm2
Comments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

Note:
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Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Raft
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	1
Casting Date	12-Dec-2022
Tested Date	9-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	28	8.75	150*150*150	2592.59	473.00	0.0225	21.02	20.62	20.59
2	20	28	8.83	150*150*150	2616.30	462.00	0.0225	20.53		
3	20	28	8.95	150*150*150	2651.85	457.00	0.0225	20.31		
4	20	28	8.78	150*150*150	2601.48	455.00	0.0225	20.22	20.55	
5	20	28	8.47	150*150*150	2509.63	461.00	0.0225	20.49		
6	20	28	8.66	150*150*150	2565.93	471.00	0.0225	20.93		

Results: 28-days Compressive strength of Concrete is 20.59 N/mm2

Comments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

Note:
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Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Raft
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	2
Casting Date	12-Dec-2022
Tested Date	9-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	28	8.67	150*150*150	2568.89	452.00	0.0225	20.09	20.33	20.34
2	20	28	8.97	150*150*150	2657.78	461.00	0.0225	20.49		
3	20	28	8.48	150*150*150	2512.59	459.00	0.0225	20.40		
4	20	28	8.51	150*150*150	2521.48	455.00	0.0225	20.22	20.36	
5	20	28	8.47	150*150*150	2509.63	462.00	0.0225	20.53		
6	20	28	8.88	150*150*150	2631.11	457.00	0.0225	20.31		

Results: 28-days Compressive strength of Concrete is 20.34 N/mm2

Comments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

Note:

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Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Raft
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	3
Casting Date	12-Dec-2022
Tested Date	9-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	28	8.47	150*150*150	2509.63	461.00	0.0225	20.49	20.37	20.33
2	20	28	8.49	150*150*150	2515.56	459.00	0.0225	20.40		
3	20	28	7.49	150*150*150	2219.26	455.00	0.0225	20.22		
4	20	28	7.58	150*150*150	2245.93	451.00	0.0225	20.04	20.30	
5	20	28	7.24	150*150*150	2145.19	459.00	0.0225	20.40		
6	20	28	8.49	150*150*150	2515.56	460.00	0.0225	20.44		

Results: 28-days Compressive strength of Concrete is 20.33 N/mm2

Comments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

Note:

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Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Raft
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	4
Casting Date	19-Dec-2022
Tested Date	16-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	28	8.51	150*150*150	2521.48	456.00	0.0225	20.27	20.37	20.33
2	20	28	8.55	150*150*150	2533.33	457.00	0.0225	20.31		
3	20	28	8.61	150*150*150	2551.11	462.00	0.0225	20.53		
4	20	28	8.74	150*150*150	2589.63	450.00	0.0225	20.00	20.28	
5	20	28	8.47	150*150*150	2509.63	452.00	0.0225	20.09		
6	20	28	8.59	150*150*150	2545.19	467.00	0.0225	20.76		

Results: 28-days Compressive strength of Concrete is 20.33 N/mm2

Comments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

Note:

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Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Raft
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	5
Casting Date	19-Dec-2022
Tested Date	16-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	28	8.62	150*150*150	2554.07	458.00	0.0225	20.36	20.70	20.60
2	20	28	8.47	150*150*150	2509.63	461.00	0.0225	20.49		
3	20	28	8.35	150*150*150	2474.07	478.00	0.0225	21.24		
4	20	28	8.51	150*150*150	2521.48	471.00	0.0225	20.93	20.50	
5	20	28	8.25	150*150*150	2444.44	457.00	0.0225	20.31		
6	20	28	8.31	150*150*150	2462.22	456.00	0.0225	20.27		

Results: 28-days Compressive strength of Concrete is 20.60 N/mm2

Comments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

Note:

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Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Raft
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	6
Casting Date	19-Dec-2022
Tested Date	16-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength
1	20	28	8.72	150*150*150	2583.70	452.00	0.0225	20.09	20.61	20.70
2	20	28	8.57	150*150*150	2539.26	461.00	0.0225	20.49		
3	20	28	8.45	150*150*150	2503.70	478.00	0.0225	21.24		
4	20	28	8.61	150*150*150	2551.11	471.00	0.0225	20.93	20.79	
5	20	28	8.35	150*150*150	2474.07	462.00	0.0225	20.53		
6	20	28	8.41	150*150*150	2491.85	470.00	0.0225	20.89		

Results: 28-days Compressive strength of Concrete is 20.70 N/mm2
Comments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

Note:
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Project Management Consultancy Services

Summary of Frequencies of Field Tests and Lab Tests Conducted

Name of the work: Package No.06 Consists of 14 Works

Job No: MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR

Contractor M/s.SMLP Asphalts,Prop. Sri B B Umesha,

Sl. No	Particulars of the Tests	M20 Concrete For Wall			
		Quantity Cum	Frequency of Tests	Tests Required	Tests Carried Out
IV	**Concrete**				
1	Compressive strength test	176.27	1 to 5cum=1 sample 6 to 15 cum=2 sample 16 to 30cum=3 smaple 31 to 50cum= 4 sample 51cum and above= one additonal sample for every additional 50 cum or part therof	8	8
	7-days				
	28-days				

Note: Frequency of tests as per Specifications MORT&H, V Revision, Section 900.

consultant

contractor

ASSISTANT ENGINEER

ASSISTANT EXE ENGINEER

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Wall
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	1
Casting Date	19-Dec-2022
Tested Date	26-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	7	8.15	150*150*150	2414.81	322.00	0.0225	14.31	14.13	14.14
2	20	7	8.23	150*150*150	2438.52	315.00	0.0225	14.00		
3	20	7	8.14	150*150*150	2411.85	317.00	0.0225	14.09		
4	20	7	8.21	150*150*150	2432.59	315.00	0.0225	14.00	14.15	
5	20	7	8.23	150*150*150	2438.52	318.00	0.0225	14.13		
6	20	7	8.08	150*150*150	2394.07	322.00	0.0225	14.31		

Results: 7-days Compressive strength of Concrete is 14.14 N/mm2

Comments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

Note:

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Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Wall
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	2
Casting Date	19-Dec-2022
Tested Date	26-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	7	8.71	150*150*150	2580.74	312.00	0.0225	13.87	14.06	14.12
2	20	7	8.05	150*150*150	2385.19	317.00	0.0225	14.09		
3	20	7	8.09	150*150*150	2397.04	320.00	0.0225	14.22		
4	20	7	8.41	150*150*150	2491.85	325.00	0.0225	14.44	14.18	
5	20	7	8.38	150*150*150	2482.96	317.00	0.0225	14.09		
6	20	7	8.31	150*150*150	2462.22	315.00	0.0225	14.00		

Results: 7-days Compressive strength of Concrete is 14.12 N/mm2

Comments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

Note:

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AE-09

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Wall
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	3
Casting Date	19-Dec-2022
Tested Date	26-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	7	8.80	150*150*150	2607.41	314.00	0.0225	13.96	14.15	14.21
2	20	7	8.14	150*150*150	2411.85	319.00	0.0225	14.18		
3	20	7	8.18	150*150*150	2423.70	322.00	0.0225	14.31		
4	20	7	8.50	150*150*150	2518.52	327.00	0.0225	14.53	14.27	
5	20	7	8.47	150*150*150	2509.63	319.00	0.0225	14.18		
6	20	7	8.40	150*150*150	2488.89	317.00	0.0225	14.09		

Results: 7-days Compressive strength of Concrete is 14.21 N/mm2

Comments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

Note:

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Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Wall
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	4
Casting Date	19-Dec-2022
Tested Date	26-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	7	8.90	150*150*150	2637.04	316.00	0.0225	14.04	14.24	14.30
2	20	7	8.24	150*150*150	2441.48	321.00	0.0225	14.27		
3	20	7	8.28	150*150*150	2453.33	324.00	0.0225	14.40		
4	20	7	8.60	150*150*150	2548.15	329.00	0.0225	14.62	14.36	
5	20	7	8.57	150*150*150	2539.26	321.00	0.0225	14.27		
6	20	7	8.50	150*150*150	2518.52	319.00	0.0225	14.18		

Results: 7-days Compressive strength of Concrete is 14.30 N/mm2

Comments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

Note:

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Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Wall
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	5
Casting Date	28-Dec-2022
Tested Date	4-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	7	8.99	150*150*150	2663.70	318.00	0.0225	14.13	14.33	14.39
2	20	7	8.33	150*150*150	2468.15	323.00	0.0225	14.36		
3	20	7	8.37	150*150*150	2480.00	326.00	0.0225	14.49		
4	20	7	8.69	150*150*150	2574.81	331.00	0.0225	14.71	14.44	
5	20	7	8.66	150*150*150	2565.93	323.00	0.0225	14.36		
6	20	7	8.59	150*150*150	2545.19	321.00	0.0225	14.27		

Results: 7-days Compressive strength of Concrete is 14.39 N/mm2

Comments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

Note:

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Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Wall
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	6
Casting Date	28-Dec-2022
Tested Date	4-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength
1	20	7	9.09	150*150*150	2693.33	320.00	0.0225	14.22	14.41	14.47
2	20	7	8.43	150*150*150	2497.78	325.00	0.0225	14.44		
3	20	7	8.47	150*150*150	2509.63	328.00	0.0225	14.58		
4	20	7	8.79	150*150*150	2604.44	333.00	0.0225	14.80	14.53	
5	20	7	8.76	150*150*150	2595.56	325.00	0.0225	14.44		
6	20	7	8.69	150*150*150	2574.81	323.00	0.0225	14.36		

Results: 7-days Compressive strength of Concrete is 14.47 N/mm2
Comments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

Note:
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Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Wall
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	7
Casting Date	28-Dec-2022
Tested Date	4-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength
1	20	7	9.18	150*150*150	2720.00	322.00	0.0225	14.31	14.50	14.56
2	20	7	8.52	150*150*150	2524.44	327.00	0.0225	14.53		
3	20	7	8.56	150*150*150	2536.30	330.00	0.0225	14.67		
4	20	7	8.88	150*150*150	2631.11	335.00	0.0225	14.89	14.62	
5	20	7	8.85	150*150*150	2622.22	327.00	0.0225	14.53		
6	20	7	8.78	150*150*150	2601.48	325.00	0.0225	14.44		

Results: 7-days Compressive strength of Concrete is 14.56 N/mm2
Comments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

Note:
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Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Wall
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	8
Casting Date	28-Dec-2022
Tested Date	4-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength
1	20	7	9.28	150*150*150	2749.63	324.00	0.0225	14.40	14.59	14.65
2	20	7	8.62	150*150*150	2554.07	329.00	0.0225	14.62		
3	20	7	8.66	150*150*150	2565.93	332.00	0.0225	14.76		
4	20	7	8.98	150*150*150	2660.74	337.00	0.0225	14.98	14.71	
5	20	7	8.95	150*150*150	2651.85	329.00	0.0225	14.62		
6	20	7	8.88	150*150*150	2631.11	327.00	0.0225	14.53		

Results: 7-days Compressive strength of Concrete is 14.65 N/mm2
Comments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

Note:
i. The results indicated above are based on the tests carried out on the sample at site.
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Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Wall
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	1
Casting Date	19-Dec-2022
Tested Date	16-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	28	8.75	150*150*150	2592.59	461.00	0.0225	20.49	20.28	20.44
2	20	28	8.66	150*150*150	2565.93	455.00	0.0225	20.22		
3	20	28	8.45	150*150*150	2503.70	453.00	0.0225	20.13		
4	20	28	8.51	150*150*150	2521.48	461.00	0.0225	20.49	20.59	
5	20	28	8.52	150*150*150	2524.44	463.00	0.0225	20.58		
6	20	28	8.77	150*150*150	2598.52	466.00	0.0225	20.71		

Results: 28-days Compressive strength of Concrete is 20.44 N/mm2

Comments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

Note:
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Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Wall
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	2
Casting Date	19-Dec-2022
Tested Date	16-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	28	8.91	150*150*150	2640.00	451.00	0.0225	20.04	20.58	20.51
2	20	28	8.78	150*150*150	2601.48	466.00	0.0225	20.71		
3	20	28	8.81	150*150*150	2610.37	472.00	0.0225	20.98		
4	20	28	8.65	150*150*150	2562.96	467.00	0.0225	20.76	20.44	
5	20	28	8.72	150*150*150	2583.70	451.00	0.0225	20.04		
6	20	28	8.75	150*150*150	2592.59	462.00	0.0225	20.53		

Results: 28-days Compressive strength of Concrete is 20.51 N/mm2

Comments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

Note:

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Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Wall
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	3
Casting Date	19-Dec-2022
Tested Date	16-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	28	9.00	150*150*150	2666.67	453.00	0.0225	20.13	20.67	20.60
2	20	28	8.87	150*150*150	2628.15	468.00	0.0225	20.80		
3	20	28	8.90	150*150*150	2637.04	474.00	0.0225	21.07		
4	20	28	8.74	150*150*150	2589.63	469.00	0.0225	20.84	20.53	
5	20	28	8.81	150*150*150	2610.37	453.00	0.0225	20.13		
6	20	28	8.84	150*150*150	2619.26	464.00	0.0225	20.62		

Results: 28-days Compressive strength of Concrete is 20.60 N/mm2

Comments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

Note:

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Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Wall
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	4
Casting Date	19-Dec-2022
Tested Date	16-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	28	9.10	150*150*150	2696.30	455.00	0.0225	20.22	20.76	20.69
2	20	28	8.97	150*150*150	2657.78	470.00	0.0225	20.89		
3	20	28	9.00	150*150*150	2666.67	476.00	0.0225	21.16		
4	20	28	8.84	150*150*150	2619.26	471.00	0.0225	20.93	20.62	
5	20	28	8.91	150*150*150	2640.00	455.00	0.0225	20.22		
6	20	28	8.94	150*150*150	2648.89	466.00	0.0225	20.71		

Results: 28-days Compressive strength of Concrete is 20.69 N/mm2

Comments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

Note:

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Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Wall
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	5
Casting Date	28-Dec-2022
Tested Date	25-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	28	9.19	150*150*150	2722.96	457.00	0.0225	20.31	20.84	20.78
2	20	28	9.06	150*150*150	2684.44	472.00	0.0225	20.98		
3	20	28	9.09	150*150*150	2693.33	478.00	0.0225	21.24		
4	20	28	8.93	150*150*150	2645.93	473.00	0.0225	21.02	20.71	
5	20	28	9.00	150*150*150	2666.67	457.00	0.0225	20.31		
6	20	28	9.03	150*150*150	2675.56	468.00	0.0225	20.80		

Results: 28-days Compressive strength of Concrete is 20.78 N/mm2

Comments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

Note:

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ii. The results relate only to the items tested.
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Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Wall
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	6
Casting Date	28-Dec-2022
Tested Date	25-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength
1	20	28	9.29	150*150*150	2752.59	459.00	0.0225	20.40	20.93	20.87
2	20	28	9.16	150*150*150	2714.07	474.00	0.0225	21.07		
3	20	28	9.19	150*150*150	2722.96	480.00	0.0225	21.33		
4	20	28	9.03	150*150*150	2675.56	475.00	0.0225	21.11	20.80	
5	20	28	9.10	150*150*150	2696.30	459.00	0.0225	20.40		
6	20	28	9.13	150*150*150	2705.19	470.00	0.0225	20.89		

Results: 28-days Compressive strength of Concrete is 20.87 N/mm2
Comments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

Note:
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Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Wall
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	7
Casting Date	28-Dec-2022
Tested Date	25-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength
1	20	28	9.38	150*150*150	2779.26	461.00	0.0225	20.49	21.02	20.96
2	20	28	9.25	150*150*150	2740.74	476.00	0.0225	21.16		
3	20	28	9.28	150*150*150	2749.63	482.00	0.0225	21.42		
4	20	28	9.12	150*150*150	2702.22	477.00	0.0225	21.20	20.89	
5	20	28	9.19	150*150*150	2722.96	461.00	0.0225	20.49		
6	20	28	9.22	150*150*150	2731.85	472.00	0.0225	20.98		

Results: 28-days Compressive strength of Concrete is 20.96 N/mm2
Comments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

Note:
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Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Wall
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	8
Casting Date	28-Dec-2022
Tested Date	25-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength
1	20	28	9.48	150*150*150	2808.89	463.00	0.0225	20.58	21.11	21.04
2	20	28	9.35	150*150*150	2770.37	478.00	0.0225	21.24		
3	20	28	9.38	150*150*150	2779.26	484.00	0.0225	21.51		
4	20	28	9.22	150*150*150	2731.85	479.00	0.0225	21.29	20.98	
5	20	28	9.29	150*150*150	2752.59	463.00	0.0225	20.58		
6	20	28	9.32	150*150*150	2761.48	474.00	0.0225	21.07		

Results: 28-days Compressive strength of Concrete is 21.04 N/mm2
Comments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

Note:
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Project Management Services

Summary of Frequencies of Field Tests and Lab Tests Conducted

Name of the work: **Package No.06 Consists of 14 Works**

Job No: **MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR**

Contractor **M/s.SMLP Asphalts,Prop. Sri B B Umesha,**

Sl. No	Particulars of the Tests	Precast Covering Slab(100mm Thick) Core Cut			
		Quantity Sqm	Frequency of Tests	Tests Required	Tests Carried Out
	Core Cutting				
1	Compressive strength test	492.30	One Test Per Source of supply	1	1

Note: Frequency of tests as per Specifications MORT&H, V Revision, Section 900.

consultant

contractor

ASSISTANT ENGINEER

ASSISTANT EXE ENGINEER

Test Report
Concrete Compressive strength

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Precast Covering Slab(100mm Thick) Core Cut
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Test Location	Laboratory
Sample No	1
Tested Date	23-Dec-2022

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (Kg/m³)	H/D	Correction Factor (Based on H/D)	Failure Load (KN)	Core Strength (N/mm²)	Correction Factor for the dia. (Strength of the Core X 1.08)	Corrected Cylinder Compressive Strength (N/mm²)	Equivalent Cube Compressive Strength (N/mm²)
1	100.00	99.78	0.72	918.384	0.9978	0.89	132.157	16.82	18.17	20.37	25.46
2	100.00	99.13	0.78	1001.44	0.9913	0.89	131.61	16.75	18.09	20.30	25.38
3	100.00	99.62	0.65	830.428	0.9962	0.89	133.73	17.02	18.38	20.62	25.77

Results: Compressive strength of 100mm thick Precast Slab is 25.54 N/mm2

Note:

i. The results indicated above are based on the tests carried out on the sample at site.
ii. The results relate only to the items tested.
iii. This test report should not be reproduced except in full, without written approval of this laboratory.
iv. Any query regarding the report must be reported immediately.

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Project Management Services

Summary of Frequencies of Field Tests and Lab Tests Conducted

Name of the work: **Package No.06 Consists of 14 Works**

Job No: **MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR**

Contractor **M/s.SMLP Asphalts,Prop. Sri B B Umesha,**

Sl. No	Particulars of the Tests	Precast Covering Slab(230mm Thick) Core Cut			
		Quantity Sqm	Frequency of Tests	Tests Required	Tests Carried Out
	Core Cutting				
1	Compressive strength test	99.15	One Test Per Source of supply	1	1

Note: Frequency of tests as per Specifications MORT&H, V Revision, Section 900.

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ASSISTANT ENGINEER

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Test Report
Concrete Compressive strength

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Precast Covering Slab(230mm Thick) Core Cut
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Test Location	Laboratory
Sample No	1
Tested Date	23-Dec-2022

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (Kg/m³)	H/D	Correction Factor (Based on H/D)	Failure Load (KN)	Core Strength (N/mm²)	Correction Factor for the dia. (Strength of the Core X 1.08)	Corrected Cylinder Compressive Strength (N/mm²)	Equivalent Cube Compressive Strength (N/mm²)
1	100.00	228.65	1.495	832.157	2.2865	1.03	158.164	20.13	21.74	21.09	26.36
2	100.00	229.13	1.486	825.415	2.2913	1.03	151.33	19.26	20.80	20.17	25.21
3	100.00	227.62	1.472	823.062	2.2762	1.03	154.55	19.67	21.24	20.63	25.79

Results: Compressive strength of 230mm thick Precast Slab is 25.78 N/mm2

Note:

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Project Management Services

Summary of Frequencies of Field Tests and Lab Tests Conducted

Name of the work: Package No.06 Consists of 14 Works

Job No: MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR

Contractor M/s.SMLP Asphalts,Prop. Sri B B Umesha,

Sl. No	Particulars of the Tests	Wet Mix Macadam WMM			
		Quantity Cum	Frequency of Tests	Tests Required	Tests Carried Out
1	Rate of Spread of Prime Coat	102.05	3 Test / Day	3	3
2	Aggregate Impact Value		1 Test / 1000 m^3	1	1
3	Combined Flakiness & Elongation Indices		1Test / 500 m^3	1	1
4	Aggregate gradation		1Test / 200 m^3	1	1
5	Atterberg limits		1Test / 200 m^3	1	1
6	Density of Compacted Layer		1 Test / 1000m^2	1	1

Note: Frequency of tests as per Specifications MORT&H, V Revision, Section 900.

Consultant

Contractor

ASSISTANT ENGINEER

ASSISTANT EXE ENGINEER

Test Report
Rate of Spread of Prime Coat

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Wet Mix Macadam WMM
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Location	At Site
Material	Emulsion (Prime Coat)
Sample No	1
Tested Date	12-Dec-2022

Sl. No.	Determination	Unit	Test No 1		
			Longitudinal Distribution		
1	Size of Plate (mxn)	m^2	0.2x0.2	0.2x0.2	0.2x0.2
2	Area of the Plate (a)	m^2	0.04	0.04	0.04
3	Initial weight of the empty Plate (b)	kg	1.635	1.635	1.635
4	Final weight of plate after application of Tack Coat (c)	kg	1.671	1.672	1.673
5	Weight of Prime coat/ Tack Coat (d = c-b)	kg	0.036	0.037	0.038
6	Rate of spread (d/a)	kg / m^2	0.900	0.925	0.950
7	Average	kg / m^2	0.925		
8	Specified Limit	kg / m^2	Not less than 0.90 kg / m^2		

Results: Rate of Spread of Prime Coat is: 0.925 kg / m2

Note:

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Test Report
Rate of Spread of Prime Coat

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Wet Mix Macadam WMM
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Location	At Site
Material	Emulsion (Prime Coat)
Sample No	2
Tested Date	12-Dec-2022

Sl. No.	Determination	Unit	Test No 1		
			Longitudinal Distribution		
1	Size of Plate (mxn)	m^2	0.2x0.2	0.2x0.2	0.2x0.2
2	Area of the Plate (a)	m^2	0.04	0.04	0.04
3	Initial weight of the empty Plate (b)	kg	1.635	1.635	1.635
4	Final weight of plate after application of Tack Coat (c)	kg	1.672	1.672	1.673
5	Weight of Prime coat/ Tack Coat (d = c-b)	kg	0.037	0.037	0.038
6	Rate of spread (d/a)	kg / m^2	0.925	0.925	0.95
7	Average	kg / m^2	0.933		
8	Specified Limit	kg / m^2	Not less than 0.90 kg / m2		

Results: Rate of Spread of Prime Coat is: 0.933 kg / m2

Note:

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Test Report
Rate of Spread of Prime Coat

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Wet Mix Macadam WMM
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Location	At Site
Material	Emulsion (Primer Coat)
Sample No	3
Tested Date	12-Dec-2022

Sl. No.	Determination	Unit	Test No 1		
			Longitudinal Distribution		
1	Size of Plate (mxn)	m^2	0.2x0.2	0.2x0.2	0.2x0.2
2	Area of the Plate (a)	m^2	0.04	0.04	0.04
3	Initial weight of the empty Plate (b)	kg	1.635	1.635	1.635
4	Final weight of plate after application of Tack Coat (c)	kg	1.671	1.672	1.673
5	Weight of Prime coat/ Tack Coat (d = c-b)	kg	0.036	0.037	0.038
6	Rate of spread (d/a)	kg / m^2	0.9	0.925	0.95
7	Average	kg / m^2	0.942		
8	Specified Limit	kg / m^2	Not less than 0.90 kg / m2		

Results: Rate of Spread of Prime Coat is: 0.942 kg / m2

Note:

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Test Report
Aggregate Impact Value

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Wet Mix Macadam WMM
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Material	Coarse Aggregate
Test Method	IS : 2386 (Part - 4) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Sample No	1
Sample Collection Date	6-Mar-2023
Tested Date	7-Mar-2023

Sl. No.	Determination	Unit	Trails	
1	Weight of empty cylinder, w1	gm	960	960
2	Weight of container filled with Aggregate, w2	gm	1328	1336
3	Weight of the Aggregate before compaction, (w2 - w1) = w3	gm	368	376
4	Weight of the sample passing through 2.36 mm IS sieves after Impact, w4	gm	91	94
5	Weight of the sample retained on 2.36 mm IS sieve after Impact, w5	gm	277	282
6	Aggregate Impact Value (w4 / w3)x100	%	24.73	25.00
7	Specified Limit	%	30	

Results: Average Aggregate Impact Value: **24.87** %

Note:

i. The results indicated above are based on the tests carried out on the sample at site.

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Test Report
Aggregate Particle Shape

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Wet Mix Macadam WMM
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Coarse Aggregates
Sample No	1
Sample Collection Date	6-Mar-2023
Tested Date	7-Mar-2023

I.S. Sieves Size		Weight of Retained Sample on Each Sieve (minimum 200 Pieces) (gm)	Flakiness Index		Elongation Index	
Passing through IS Sieves (mm)	Retained on IS Sieves (mm)		Thickness Gauge	Weight of Aggregates in each fraction passing on thickness gauges (gm)	Length Gauge	Weight of Aggregates in Fraction retained on length gauges (gm)
63.0	50.0	0.0	33.90	0.0	-	0.0
50.0	40.0	0.0	27.00	0.0	81.00	0.0
40.0	25.0	39.45	19.50	0.0	58.50	0.0
31.5	25.0	54.11	16.95	0.0	-	0.0
25.0	20.0	1444.58	13.50	124.58	40.50	142.58
20.0	16.0	1403.02	10.80	82.02	32.40	109.02
16.0	12.5	955.67	8.55	150.67	25.60	157.67
12.5	10.0	569.34	6.75	171.34	20.20	177.34
10.0	6.3	250.49	4.89	72.49	14.70	79.49
	SW	4716.66	SWf	601.1	SWe	666.1

Flakiness Index 12.74 %
Elongation Index 14.12 %
Combined Flakiness and Elongation Indices : 26.87 %

Comments: Maximum allowable Combined Flakiness and Elongation Indices for WMM is 35%

Note:

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Test Report
Aggregate Gradation

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Wet Mix Macadam WMM
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Coarse Aggregates
Sample No	1
Sample Collection Date	6-Mar-2023
Tested Date	7-Mar-2023

Weight of Sample: 11096.78 gms

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	53	0.00	0.00	0.00	100	100	Gradation satisfies the MORT&H Specification for Wet Mix macadam
2	45	236.41	2.13	2.13	97.87	95-100	
3	22.4	2914.36	26.26	28.39	71.61	60-80	
4	11.2	2071.11	18.66	47.05	52.95	40-60	
5	4.75	2198.36	19.81	66.86	33.14	25-40	
6	2.36	1472.3	13.27	80.13	19.87	15-30	
7	0.6	518.64	4.67	84.8	15.2	8-22	
8	0.075	1412.65	12.73	97.53	2.47	0-5	

Note:

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Test Report
Liquid and Plastic Limit by Cone Apparatus

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Wet Mix Macadam WMM
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Sample No	1
Sample Collection Date	6-Mar-2023
Tested Date	8-Mar-2023

Sl No	Description	Unit	Liquid Limit	Plastic Limit
	Penetration	mm	**Non Plastic**	**Non Plastic**
1	Container No	no		
2	Weight of container,(A)	gm		
3	Weight of container + wet soil, (B)	gm		
4	Weight of container + dry soil, (C)	gm		
5	Weight of water, D=(B - C)	gm		
6	Weight of dry soil, E=(C - A)	gm		
7	Water Content, D/E x 100 (%)	gm		

Comments: <6 so Non Plastic

Note:

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ii. The results relate only to the items tested.
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Test Report
Field Density Test by Sand Replacement Method

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Wet Mix Macadam WMM
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS: 2720 (Part - 16) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Site
Sample No	1
Tested Date	10-Mar-2023

Test Hole No	**1**
MDD	2.25
OMC in %	5.5
Bulk Density Ys	1.392
Weight of Sand In cone W1 (gm)	1195
Weight Of Wet soil From Hole (W2)	4921
Wt Of Sand +Cylinder Before Pouring (W3)gm	17000
Wt Of Sand +Cylinder After Pouring (W4) gm	12858
Wt Of Sand In Hole: W5 = W3 - W4- W1 (gm)	2947
Volume of Hole: V= W5/ Ys	2117.10
Bulk Density Yb= W2/V (gm/cc)	2.32
Moisture Meter Reading (%)	5.2
Moisture Content : w (From Graph In %)	-
Dry Density Yd = Yb/(1+W/100)	2.21
Field Compaction(%)	98.20

Note:

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Project Management Services

Summary of Frequencies of Field Tests and Lab Tests Conducted

Name of the work: **Package No.06 Consists of 14 Works**

Job No: **MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR**

Contractor **M/s.SMLP Asphalts,Prop. Sri B B Umesha,**

Sl. No	Particulars of the Tests	Dense Graded Bituminious Macadam(DBM)			
		Quantity Cum	Frequency of Tests	Tests Required	Tests Carried Out
1	Quality of Binder	27.69	2 Test / lot	2	2
2	Aggregate Impact Value		1 Test / 350 m^3	1	1
3	Combined Flakiness & Elongation Indices		1 Test / 350 m^3	1	1
4	Aggregate Stripping Value		1Test / Source of Supply	1	1
5	Specific Gravity & Water Absorption of Aggregates		1Test / Source of Supply	1	1
6	Aggregate gradation		2 Test / day	2	2
7	Marshal Stability of the Mix		1 Test/400 tonnes (Min.2 Test)	2	2
8	Binder content and Mix Gradation		1 Test/400 tonnes (Min.2 Test)	2	2

Note: Frequency of tests as per Specifications MORT&H, V Revision, Section 900.

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Consultant

Contractor

ASSISTANT ENGINEER

ASSISTANT EXE ENGINEER

Test Report
Quality of Bitumen

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Dense Graded Bituminious Macadam(DBM)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 73 – 2013 (Paving Bitumen) & Specification for Road & Bridge Works, MORT&H, Revision V.
Grade of Bitumen	VG30
Location	Hot Mix Plant
Material	Bitumen
Sample No	1
Sample Collection Date	6-Dec-2022
Tested Date	7-Dec-2022

Sl. No.	Description	Test Results	Requirement as per IS:73 - 2013
1	Penetration at 25^0C , 1 / 10 mm	46	Min. 45
2	Softening Point, (^{0}C)	51	Min. 47
3	Specific Gravity	1.1	Min. 0.97
4	Ductility at 27^0C, in cm	44	Min. 40
5	Flash Point, (^{0}C)	226	Min. 220

Note:

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Test Report
Quality of Bitumen

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Dense Graded Bituminious Macadam(DBM)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 73 – 2013 (Paving Bitumen) & Specification for Road & Bridge Works, MORT&H, Revision V.
Grade of Bitumen	VG30
Location	Hot Mix Plant
Material	Bitumen
Sample No	2
Sample Collection Date	6-Dec-2022
Tested Date	7-Dec-2022

Sl. No.	Description	Test Results	Requirement as per IS:73 - 2013
1	Penetration at 25^{0}C , 1 / 10 mm	47	Min. 45
2	Softening Point, (^{0}C)	50	Min. 47
3	Specific Gravity	1.1	Min. 0.97
4	Ductility at 27^{0}C, in cm	45	Min. 40
5	Flash Point, (^{0}C)	225	Min. 220

Note:

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Test Report
Aggregate Impact Value

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Dense Graded Bituminious Macadam(DBM)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 2386 (Part - 4) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Coarse Aggregate
Sample No	1
Sample Collection Date	6-Dec-2022
Tested Date	9-Dec-2022

Sl. No.	Determination	Unit	Trails	
1	Weight of empty cylinder, w1	gm	960	960
2	Weight of container filled with Aggregate, w2	gm	1333	1335
3	Weight of the Aggregate before compaction, (w2 - w1) = w3	gm	373	375
4	Weight of the sample passing through 2.36 mm IS sieves after Impact, w4	gm	90	90
5	Weight of the sample retained on 2.36 mm IS sieve after Impact, w5	gm	283	285
6	Aggregate Impact Value (w4 / w3)x100	%	24.13	24.00
7	Specified Limit	%	27	

Results: Average Aggregate Impact Value: **24.07** %

Note:

i. The results indicated above are based on the tests carried out on the sample at site.

ii. The results relate only to the items tested.

iii. This test report should not be reproduced except in full, without written approval of this laboratory.

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Test Report
Aggregate Particle Shape

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Dense Graded Bituminious Macadam(DBM)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Coarse Aggregates
Sample No	1
Sample Collection Date	6-Dec-2022
Tested Date	9-Dec-2022

I.S. Sieves Size		Weight of Retained Sample on Each Sieve (minimum 200 Pieces) (gm)	Flakiness Index		Elongation Index	
Passing through IS Sieves (mm)	Retained on IS Sieves (mm)		Thickness Gauge	Weight of Aggregates in each fraction passing on thickness gauges (gm)	Length Gauge	Weight of Aggregates in Fraction retained on length gauges (gm)
63	50	0	33.9	0	-	0
50	40	0	27	0	81	0
40	25	0	19.5	0	58.5	0
31.5	25	0	16.95	0	-	0
25	20	1432.25	13.5	112.25	40.5	130.25
20	16	1598.14	10.8	277.14	32.4	304.14
16	12.5	849.47	8.55	44.47	25.6	51.47
12.5	10	465.15	6.75	67.15	20.2	73.15
10	6.3	256.49	4.89	78.49	14.7	85.49
	SW	4601.5	SWf	579.5	SWe	644.5

Flakiness Index 12.93 %
Elongation Index 14.38 %
Combined Flakiness and Elongation Indices : 27.30 %

Comments: Maximum allowable Combined Flakiness and Elongation Indices for DBM is 35%.

Note:
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Test Report
Aggregate Stripping Value

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Dense Graded Bituminious Macadam(DBM)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 6241 - 1971 & Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Laboratory
Material	Coarse Aggregates / Bitumen
Sample No	1
Tested Date	10-Dec-2022
Type of Aggregate	Coarse Aggregate
Type of Binder	60 / 70 Grade
Percentage of Binder Used	5% by weight
Total weight of Aggregate	200 gms
Total weight of Binder	10 gms
Temperature of water bath	40^0C

Observation Number	Stripping Percentage	Average Percentage	Average Retained Coating (%)
1	3.4	3.3	96.7
2	3.2		
3	3.3		

Comments: Minimum allowable Aggregate Stripping Value for Dense Bituminous Macadam is 95%

Note:

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Test Report

Specific Gravity and Water Absorption

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Dense Graded Bituminious Macadam(DBM)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS: 2386 (Part - 111) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Coarse Aggregates
Sample No	1
Sample Collection Date	6-Dec-2022
Tested Date	10-Dec-2022

Sl. No.	Particulars	Computations	Test Numbers		Mean
			Test 1	Test 2	
1	Weight of Empty Basket Immersed in Water	W_1 g	761	763	
2	Wt of Basket Filled with Aggregates Immersed in water	W_2g	2098	2014	
3	Weight of Saturated Aggregate in water	$W_s g = W_2 - W_1$	1337	1251	
4	Weight of saturated surface dry aggregate in Air	W_3 g	2133	2039	
5	Weight of water equal to the Volume of the Aggregate	$W_3 - W_s$	796	788	
6	Weight of Oven dried Aggregate	W_4g	2098	2002	
7	Specific Gravity	$W_4/(W_3 - W_s)$	2.64	2.54	2.59
8	Apparent Specific Gravity	$W_4/(W_4 - W_s)$	2.76	2.67	2.71
9	Water Absorption	$(W_4 - W_3)*100/W_4$	1.67	1.85	1.76

Comments: Maximum allowable Aggregate Water Absorption value for Dense bituminous Macadam is 2.0%.

Note:

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Test Report
Aggregate Gradation

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Dense Graded Bituminious Macadam(DBM)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Coarse Aggregates
Sample No	1
Sample Collection Date	6-Dec-2022
Tested Date	9-Dec-2022

Weight of Sample: 10930 gms

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	37.5	0	0.00	0.00	100.00	100	Gradation satisfies the MORT&H Specification for Dense graded Bituminous Macadam
2	26.5	481.25	4.40	4.40	95.60	90-100	
3	19	1457.36	13.33	17.74	82.26	71-95	
4	13.2	1589.65	14.54	32.28	67.72	56-80	
5	4.75	2238.47	20.48	52.76	47.24	38-54	
6	2.36	1472.61	13.47	66.23	33.77	28-42	
7	0.3	2173.88	19.89	86.12	13.88	7-21	
8	0.075	1042.79	9.54	95.66	4.34	2-8	

Note:

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Test Report
Aggregate Gradation

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Dense Graded Bituminious Macadam(DBM)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Coarse Aggregates
Sample No	2
Sample Collection Date	6-Dec-2022
Tested Date	9-Dec-2022

Weight of Sample: 10870 gms

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	37.5	0	0.00	0.00	100.00	100	Gradation satisfies the MORT&H Specification for Dense graded Bituminous Macadam
2	26.5	486.64	4.48	4.48	95.52	90-100	
3	19	1451.26	13.35	17.83	82.17	71-95	
4	13.2	1572.44	14.47	32.29	67.71	56-80	
5	4.75	2208.64	20.32	52.61	47.39	38-54	
6	2.36	1473.65	13.56	66.17	33.83	28-42	
7	0.3	2173.94	20.00	86.17	13.83	7-21	
8	0.075	1063.48	9.78	95.95	4.05	2-8	

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Test Report
Stability of Mix

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Dense Graded Bituminious Macadam(DBM)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Laboratory
Sample No	1
Tested Date	12-Dec-2022

Sl. No.	Description	Unit	Test 1	Requirements as per MORT&H
1	Marshal Stability	KN	9.5	9 KN (min)
2	Marshal Flow	mm	4.6	2 – 5 mm
3	Percent of Air Voids in mix	%	3.4	3 - 6
4	Percent of Voids in Mineral Aggregates filled with Bitumen	%	68	65 – 75 %
5	Density	g/cc	2.3	-

Note:

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Test Report
Stability of Mix

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Dense Graded Bituminious Macadam(DBM)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Laboratory
Sample No	2
Tested Date	12-Dec-2022

Sl. No.	Description	Unit	Test 2	Requirements as per MORT&H
1	Marshal Stability	KN	9.8	9 KN (min)
2	Marshal Flow	mm	4.2	2 – 5 mm
3	Percent of Air Voids in mix	%	4.2	3 - 6
4	Percent of Voids in Mineral Aggregates filled with Bitumen	%	72	65 – 75 %
5	Density	g/cc	2.3	-

Note:

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Test Report
Binder Content and Mix Gradation

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Dense Graded Bituminious Macadam(DBM)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Laboratory
Sample No	1
Tested Date	13-Dec-2022

Sl. No.	Description	Unit	Computation	Test Result
1	Weight of Empty bowl before Extraction (E)	gm	Eb	1080
2	Weight of bowl + Sample before extraction (w_s)	gm	w_{sb}	1773
3	Weight of Sample taken for the test (S_b)	gm	$S_b = w_{sb} - Eb$	693
4	Weight of bowl + Sample after extraction (w_s)	gm	w_{sa}	1741
5	Weight of Sample after extraction (i.e. washed aggregates)	gm	$S_a = w_{sa} - Eb$	661
6	Weight of Filter paper before extraction (F_b)	gm	F_b	2
7	Weight of Filter paper after extraction (F_a)	gm	F_a	3
8	Weight of filler on filter paper (F_d)	gm	$F_d = F_b - F_a$	1
9	Weight of Bitumen without considering Filter paper (W_b)	gm	W_b	32
10	Weight of the Bitumen with considering Filter paper (W_a)	gm	$W_a = w_{b+} F_d$	33
11	Percentage of the Bitumen (i.e. Binder Content) ($\%_{Bi}$)	(%)	W_a/ SbX100	4.76

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	37.5	0	0.00	0.00	100.00	100	Gradation satisfies the MORT&H Specification for Dense graded biyuminous macadam
2	26.5	28.47	4.31	4.31	95.69	90-100	
3	19	73.46	11.11	15.42	84.58	71-95	
4	13.2	105.46	15.95	31.38	68.62	56-80	
5	4.75	148.65	22.49	53.86	46.14	38-54	
6	2.36	66.52	10.06	63.93	36.07	28-42	
7	0.3	130.26	19.71	83.63	16.37	7-21	
8	0.075	68.43	10.35	93.99	6.01	2-8	

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Test Report
Binder Content and Mix Gradation

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Dense Graded Bituminious Macadam(DBM)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Laboratory
Sample No	2
Tested Date	13-Dec-2022

Sl. No.	Description	Unit	Computation	Test Result
1	Weight of Empty bowl before Extraction (E)	gm	Eb	1080
2	Weight of bowl + Sample before extraction (w_s)	gm	w_{sb}	1758
3	Weight of Sample taken for the test (S_b)	gm	$S_b = w_{sb} - Eb$	678
4	Weight of bowl + Sample after extraction (w_s)	gm	w_{sa}	1730
5	Weight of Sample after extraction (i.e. washed aggregates)	gm	$S_a = w_{sa} - Eb$	650
6	Weight of Filter paper before extraction (F_b)	gm	F_b	2
7	Weight of Filter paper after extraction (F_a)	gm	F_a	4
8	Weight of filler on filter paper (F_d)	gm	$F_d = F_b - F_a$	2
9	Weight of Bitumen without considering Filter paper (W_b)	gm	W_b	28
10	Weight of the Bitumen with considering Filter paper (W_a)	gm	$W_a = w_b + F_d$	30
11	Percentage of the Bitumen (i.e. Binder Content) ($\%_B$)	(%)	W_a/ SbX100	4.42

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	37.5	0	0.00	0.00	100.00	100	Gradation satisfies the MORT&H Specification for Dense graded biyuminous macadam
2	26.5	33.58	5.17	5.17	94.83	90-100	
3	19	76.48	11.77	16.93	83.07	71-95	
4	13.2	108.48	16.69	33.62	66.38	56-80	
5	4.75	155.46	23.92	57.54	42.46	38-54	
6	2.36	68.43	10.53	68.07	31.93	28-42	
7	0.3	134.25	20.65	88.72	11.28	7-21	
8	0.075	59.45	9.15	97.87	2.13	2-8	

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Team For You
Temperature Record Log Sheet

Project Name Package No.06 Consists of 14 Works

Client Excecutive Engineer - Byatarayanapura Division

Job No MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR

Mix Type Dense Graded Bituminous Macadam(DBM)

Contractor M/s.SMLP Asphalts,Prop. Sri B B Umesha,

Date 13-Mar-2023

Sl No	Tipper No	Time	Cleaning of the Surface	Application of Tackcoat	Mix Laying Temperature (C^0)	Mix Rolling Temperature (C^0)	Depth of the Mix Before Rolling (mm)	Depth of the Mix After Rolling (mm)	Remarks
1	KA05AL3345	9.10AM	Yes	Yes	142.5	90.4	67	50	
2	KA44A3345	9.55AM	Yes	Yes	143.2	93.1	66	50	

Consultant Representative
BBMP

Asst Engineer
Ward No.09
BBMP

Asst.Executive Engineer
Vidyaranyapura Sub Division,
BBMP

Mecadez Core Technologies Private Limited

Project Management Services

Summary of Frequencies of Field Tests and Lab Tests Conducted

Name of the work: **Package No.06 Consists of 14 Works**

Job No: **MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR**

Contractor **M/s.SMLP Asphalts,Prop. Sri B B Umesha,**

Sl. No	Particulars of the Tests	Bituminous Concrete (BC)			
		Quantity Cum	Frequency of Tests	Tests Required	Tests Carried Out
1	Quality of Binder	36.88	2 Test / lot	2	2
2	Rate of Spread of Tack Coat/ Prime Coat		3 Test / Day	3	3
3	Aggregate Impact Value		1 Test / 350 m^3	1	1
4	Combined Flakiness & Elongation Indices		1 Test / 350 m^3	1	1
5	Aggregate Stripping Value		1Test / Source of Supply	1	1
6	Specific Gravity & Water Absorption of Aggregates		1Test / Source of Supply	1	1
7	Aggregate gradation		2 Test	2	2
8	Marshal Stability of the Mix		1 Test/400 tonnes (Min. 2 Test)	2	2
9	Binder content and Mix Gradation		1 Test/400 tonnes (Min. 2 Test)	2	2

Note: Frequency of tests as per Specifications MORT&H, V Revision, Section 900.

Consultant

Contractor

ASSISTANT ENGINEER

ASSISTANT EXE ENGINEER

Test Report
Quality of Bitumen

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 73 – 2013 (Paving Bitumen) & Specification for Road & Bridge Works, MORT&H, Revision V.
Grade of Bitumen	VG30
Location	Hot Mix Plant
Material	Bitumen
Sample No	1
Sample Collection Date	9-Mar-2023
Tested Date	10-Mar-2023

Sl. No.	Description	Test Results	Requirement as per IS:73-2013
1	Penetration at 25^{0}C , 1 / 10 mm	47	Min. 45
2	Softening Point, (^{0}C)	49	Min. 47
3	Specific Gravity	1.1	Min. 0.97
4	Ductility at 27^{0}C, in cm	42	Min. 40
5	Flash Point, (^{0}C)	226	Min. 220

Note:

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Test Report
Quality of Bitumen

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 73 – 2013 (Paving Bitumen) & Specification for Road & Bridge Works, MORT&H, Revision V.
Grade of Bitumen	VG30
Location	Hot Mix Plant
Material	Bitumen
Sample No	2
Sample Collection Date	9-Mar-2023
Tested Date	10-Mar-2023

Sl. No.	Description	Test Results	Requirement as per IS:73-2013
1	Penetration at 25^{0}C , 1 / 10 mm	48	Min. 45
2	Softening Point, (^{0}C)	51	Min. 47
3	Specific Gravity	1.1	Min. 0.97
4	Ductility at 27^{0}C, in cm	44	Min. 40
5	Flash Point, (^{0}C)	226	Min. 220

Note:

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Test Report
Rate of Spread of Tack Coat

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Location	At Site
Material	Bitumen (Tack Coat)
Sample No	1
Tested Date	15-Mar-2023

Sl. No.	Determination	Unit	Test No 1		
			Longitudinal Distribution		
1	Size of Plate (mxn)	m^2	0.2x0.2	0.2x0.2	0.2x0.2
2	Area of the Plate (a)	m^2	0.04	0.04	0.04
3	Initial weight of the empty Plate (b)	kg	1.644	1.644	1.644
4	Final weight of plate after application of Tack Coat (c)	kg	1.654	1.653	1.653
5	Weight of Prime coat/ Tack Coat (d = c-b)	kg	0.01	0.009	0.009
6	Rate of spread (d/a)	kg / m^2	0.25	0.225	0.225
7	Average	kg / m^2	0.233		
8	Specified Limit	kg / m^2	Not less than 0.20 kg / m2		

Results: Rate of Spread of Tack Coat is: 0.233 kg / m2

Note:

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Test Report
Rate of Spread of Tack Coat

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Location	At Site
Material	Bitumen (Tack Coat)
Sample No	2
Tested Date	15-Mar-2023

Sl. No.	Determination	Unit	Test No 2		
			Longitudinal Distribution		
1	Size of Plate (mxn)	m^2	0.2x0.2	0.2x0.2	0.2x0.2
2	Area of the Plate (a)	m^2	0.04	0.04	0.04
3	Initial weight of the empty Plate (b)	kg	1.644	1.644	1.644
4	Final weight of plate after application of Tack Coat (c)	kg	1.652	1.655	1.657
5	Weight of Prime coat/ Tack Coat (d = c-b)	kg	0.008	0.011	0.013
6	Rate of spread (d/a)	kg / m^2	0.2	0.275	0.325
7	Average	kg / m^2	0.267		
8	Specified Limit	kg / m^2	Not less than 0.20 kg / m2		

Results: Rate of Spread of Tack Coat is: 0.267 kg / m2

Note:

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PROJECT MANAGEMENT CONSULTANCY SERVICES

Test Report
Rate of Spread of Tack Coat

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Location	At Site
Material	Bitumen (Tack Coat)
Sample No	3
Tested Date	15-Mar-2023

Sl. No.	Determination	Unit	Test No 3		
			Longitudinal Distribution		
1	Size of Plate (mxn)	m^2	0.2x0.2	0.2x0.2	0.2x0.2
2	Area of the Plate (a)	m^2	0.04	0.04	0.04
3	Initial weight of the empty Plate (b)	kg	1.644	1.644	1.644
4	Final weight of plate after application of Tack Coat (c)	kg	1.652	1.654	1.655
5	Weight of Prime coat/ Tack Coat (d = c-b)	kg	0.008	0.01	0.011
6	Rate of spread (d/a)	kg / m^2	0.2	0.25	0.275
7	Average	kg / m^2	0.242		
8	Specified Limit	kg / m^2	Not less than 0.20 kg / m2		

Results: Rate of Spread of Tack Coat is: 0.242 kg / m2

Note:

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Test Report
Aggregate Impact Value

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 2386 (Part - 4) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Aggregate
Sample No	1
Sample Collection Date	9-Mar-2023
Tesed Date	12-Mar-2023

Sl. No.	Determination	Unit	Trails	
1	Weight of empty cylinder, w1	gm	960	960
2	Weight of container filled with Aggregate, w2	gm	1324	1330
3	Weight of the Aggregate before compaction, (w2 - w1) = w3	gm	364	370
4	Weight of the sample passing through 2.36 mm IS sieves after Impact, w4	gm	85	86
5	Weight of the sample retained on 2.36 mm IS sieve after Impact, w5	gm	279	284
6	Aggregate Impact Value (w4 / w3)x100	%	23.35	23.24
7	Specified Limit	%	24	

Results: Average Aggregate Impact Value: **23.30** %

Note:

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Test Report
Aggregate Particle Shape

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Aggregates
Sample No	1
Sample Collection Date	9-Mar-2023
Teested Date	12-Mar-2023

I.S. Sieves Size		Weight of Retained Sample on Each Sieve (minimum 200 Pieces) (gm)	Flakiness Index		Elongation Index	
Passing through IS Sieves (mm)	Retained on IS Sieves (mm)		Thickness Gauge	Weight of Aggregates in each fraction passing on thickness gauges (gm)	Length Gauge	Weight of Aggregates in Fraction retained on length gauges (gm)
63	50	0.00	33.9	0.00	-	0.00
50	40	0.00	27	0.00	81	0.00
40	25	0.00	19.5	0.00	58.5	0.00
31.5	25	0.00	16.95	0.00	-	0.00
25	20	1615.46	13.5	295.46	40.5	313.46
20	16	1334.85	10.8	13.85	32.4	40.85
16	12.5	889.4	8.55	84.4	25.6	91.4
12.5	10	514.47	6.75	116.47	20.2	122.47
10	6.3	217.49	4.89	39.49	14.7	46.49
	SW	4571.67	SWf	549.67	SWe	614.67

Flakiness Index 12.02 %
Elongation Index 13.45 %
Combined Flakiness and Elongation Indices : 25.47 %

Comments: Maximum allowable Combined Flakiness and Elongation Indices for Bituminous Concrete is 35%.

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Test Report
Aggregate Stripping Value

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 6241 - 1971 & Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Laboratory
Material	Aggregates / Bitumen
Sample No	1
Tesed Date	10-Mar-2023
Type of Aggregate	Coarse Aggregate
Type of Binder	60 / 70 Grade
Percentage of Binder Used	5% by weight
Total weight of Aggregate	200 gms
Total weight of Binder	10 gms
Temperature of water bath	40^0C

Observation Number	Stripping Percentage	Average Percentage	Average Retained Coating (%)
1	3.2	3.17	96.83
2	3.1		
3	3.2		

Comments: Minimum allowable Aggregate Stripping Value for Bituminous Concrete is 95%

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Test Report

Specific Gravity and Water Absorption

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS: 2386 (Part - 111) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Aggregates
Sample No	1
Sapmle Collection Date	9-Mar-2023
Tested Date	10-Mar-2023

Sl. No.	Particulars	Computations	Test Numbers		Mean
			Test 1	Test 2	
1	Weight of Empty Basket Immersed in Water	W_1 g	761	763	
2	Wt of Basket Filled with Aggregates Immersed in water	W_2g	2085	2075	
3	Weight of Saturated Aggregate in water	$W_s g = W_2 - W_1$	1324	1312	
4	Weight of saturated surface dry aggregate in Air	W_3 g	2120	2100	
5	Weight of water equal to the Volume of the Aggregate	$W_3 - W_s$	796	788	
6	Weight of Oven dried Aggregate	W_4g	2082	2069	
7	Specific Gravity	$W_4/(W_3 - W_s)$	2.62	2.63	2.62
8	Apparent Specific Gravity	$W_4/(W_4 - W_s)$	2.75	2.73	2.74
9	Water Absorption	$(W_4 - W_3)*100/W_4$	1.83	1.5	1.67

Comments: Maximum allowable Aggregate Water Absorption value for Bituminous Concrete is 2.0%.

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Test Report
Aggregate Gradation

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	At Plant
Material	Aggregates
Sample No	1
Sample Collection Date	9-Mar-2023
Tested Date	12-Mar-2023

Weight of Sample: 4000 gms

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	19.00	0.00	0.00	0.00	100.00	100	Gradation satisfies the MORT&H Grade ll Specification for Bituminous Concrete
2	13.20	251.24	6.28	6.28	93.72	90-100	
3	9.50	622.54	15.56	21.84	78.16	70-88	
4	4.75	723.45	18.09	39.93	60.07	53-71	
5	2.36	530.14	13.25	53.18	46.82	42-58	
6	1.18	259.47	6.49	59.67	40.33	34-48	
7	0.60	334.25	8.36	68.03	31.97	26-38	
8	0.30	349.15	8.73	76.76	23.24	18-28	
9	0.15	423.12	10.58	87.33	12.67	12-20	
10	0.075	265.34	6.63	93.97	6.03	4-10	

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Test Report
Aggregate Gradation

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	At Plant
Material	Aggregates
Sample No	2
Sample Collection Date	9-Mar-2023
Tested Date	12-Mar-2023

Weight of Sample: 4000 gms

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	19.00	0.00	0.00	0.00	100.00	100	Gradation satisfies the MORT&H Grade ll Specification for Bituminous Concrete
2	13.20	295.4	7.39	7.39	92.62	90-100	
3	9.50	498.57	12.46	19.85	80.15	70-88	
4	4.75	641.36	16.03	35.88	64.12	53-71	
5	2.36	635.41	15.89	51.77	48.23	42-58	
6	1.18	368.48	9.21	60.98	39.02	34-48	
7	0.60	317.24	7.93	68.91	31.09	26-38	
8	0.30	364.23	9.11	78.02	21.98	18-28	
9	0.15	352.64	8.82	86.83	13.17	12-20	
10	0.075	351.64	8.79	95.62	4.38	4-10	

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Test Report
Stability of Mix

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Laboratory
Sample No	1
Tesed Date	15-Mar-2023

Sl. No.	Description	Unit	Test 1	Requirements as per MORT&H
1	Marshal Stability	KN	9.8	9 KN (min)
2	Marshal Flow	mm	3.4	2 – 4 mm
3	Percent of Air Voids in mix	%	4.6	3 – 6 %
4	Percent of Voids in Mineral Aggregates filled with Bitumen	%	65	65 – 75 %
5	Density	g/cc	2.32	-

Note:

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Test Report
Stability of Mix

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Laboratory
Sample No	2
Tesed Date	15-Mar-2023

Sl. No.	Description	Unit	Test 2	Requirements as per MORT&H
1	Marshal Stability	KN	9.5	9 KN (min)
2	Marshal Flow	mm	3.3	2 – 4 mm
3	Percent of Air Voids in mix	%	5.2	3 – 6 %
4	Percent of Voids in Mineral Aggregates filled with Bitumen	%	72	65 – 75 %
5	Density	g/cc	2.32	-

Note:

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AR-09

Test Report
Binder Content and Mix Gradation

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Laboratory
Sample No	1
Tesed Date	15-Mar-2023

Sl. No.	Description	Unit	Computation	Test Result
1	Weight of Empty bowl before Extraction (E)	gm	Eb	1080
2	Weight of bowl + Sample before extraction (w_s)	gm	w_{sb}	1814
3	Weight of Sample taken for the test (S_b)	gm	$S_b = w_{sb} - Eb$	734
4	Weight of bowl + Sample after extraction (w_s)	gm	w_{sa}	1779
5	Weight of Sample after extraction (i.e. washed aggregates)	gm	$S_a = w_{sa} - Eb$	699
6	Weight of Filter paper before extraction (F_b)	gm	F_b	2
7	Weight of Filter paper after extraction (F_a)	gm	F_a	4
8	Weight of filler on filter paper (F_d)	gm	$F_d = F_b - F_a$	2
9	Weight of Bitumen without considering Filter paper (W_b)	gm	W_b	38
10	Weight of the Bitumen with considering Filter paper (W_a)	gm	$W_a = w_b + F_d$	40
11	Percentage of the Bitumen (i.e. Binder Content) ($\%_B$)	(%)	W_a/ SbX100	5.45

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	19	0	0	0	100.00	100	Gradation satisfies the MORT&H Grade II Specification for Bituminous Concrete
2	13.2	42.35	6.06	6.06	93.94	90-100	
3	9.5	98.47	14.09	20.15	79.85	70-88	
4	4.75	105.49	15.09	35.24	64.76	53-71	
5	2.36	89.47	12.80	48.04	51.96	42-58	
6	1.18	68.35	9.78	57.82	42.18	34-48	
7	0.6	82.24	11.77	69.58	30.42	26-38	
8	0.3	58.34	8.35	77.93	22.07	18-28	
9	0.15	30.95	4.43	82.35	17.65	12-20	
10	0.075	75.64	10.82	93.18	6.82	4-10	

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Test Report
Binder Content and Mix Gradation

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Laboratory
Sample No	2
Tesed Date	15-Mar-2023

Sl. No.	Description	Unit	Computation	Test Result
1	Weight of Empty bowl before Extraction (E)	gm	Eb	1080
2	Weight of bowl + Sample before extraction (w_s)	gm	w_{sb}	1822
3	Weight of Sample taken for the test (S_b)	gm	$S_b = w_{sb} - Eb$	742
4	Weight of bowl + Sample after extraction (w_s)	gm	w_{sa}	1793
5	Weight of Sample after extraction (i.e. washed aggregates)	gm	$S_a = w_{sa} - Eb$	713
6	Weight of Filter paper before extraction (F_b)	gm	F_b	2
7	Weight of Filter paper after extraction (F_a)	gm	F_a	4
8	Weight of filler on filter paper (F_d)	gm	$F_d = F_b - F_a$	2
9	Weight of Bitumen without considering Filter paper (W_b)	gm	W_b	39
10	Weight of the Bitumen with considering Filter paper (W_a)	gm	$W_a = w_b - F_d$	41
11	Percentage of the Bitumen (i.e. Binder Content) ($\%_B$)	(%)	W_a/ SbX100	5.53

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	19	0	0.00	0.00	100.00	100	Gradation satisfies the MORT&H Grade II Specification for Bituminous Concrete
2	13.2	42.15	5.91	5.91	94.09	90-100	
3	9.5	108.47	15.21	21.12	78.88	70-88	
4	4.75	139.24	19.53	40.65	59.35	53-71	
5	2.36	95.64	13.41	54.07	45.93	42-58	
6	1.18	73.48	10.31	64.37	35.63	34-48	
7	0.6	52.34	7.34	71.71	28.29	26-38	
8	0.3	53.26	7.47	79.18	20.82	18-28	
9	0.15	52.16	7.32	86.50	13.50	12-20	
10	0.075	30.25	4.24	90.74	9.26	4-10	

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Team For You
Temperature Record Log Sheet

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Date	15-Mar-2023

Sl No	Tipper No	Time	Cleaning of the Surface	Application of Tackcoat	Mix Laying Temperature (C^0)	Mix Rolling Temperature (C^0)	Depth of the Mix Before Rolling (mm)	Depth of the Mix After Rolling (mm)	Remarks
1	KA03AK3345	9:45AM	Yes	Yes	142.5	92.5	53	40	
2	KA44A3345	10:46AM	Yes	Yes	147.9	91.8	54	40	
3	KA05AL3345	11:30AM	Yes	Yes	140.2	90.7	53	40	

Quez Core Technologies Private Limited

Consultant
Representative
BBMP

Asst Engineer
Ward No.09
BBMP

Asst.Executive Engineer
Vidyaranyapura Sub Division,
BBMP